occurs to a less degree and more slowly than heretofore, and what does occur is not of a serious nature as the pitting and building up take place practically uniformly over the entire active faces of the two contacts, causing very little change in the resistance of the contacts.

4. My improved material does not oxidize, at least to any appreciable extent, but after continuous use of the material over a long period of time, the active faces are bright, indicating almost complete absence of oxidation.

5. The material though successfully withstanding the action of the electric arc occurring at the contact points of ignition systems is ductile and can be swaged, making it possible to rivet it directly to the contact holding member. This is a distinct advantage over the use of tungsten, which is so hard and brittle that it has been necessary heretofore to braze the tungsten point to a softer material, generally iron, and commonly referred to as an iron tack, which can be riveted to the contact holding member. In this connection it might be stated that in brazing a contact point of tungsten or other hard, brittle material to a softer material such as iron, it is very difficult to keep the brazing material from flashing over onto the active face of the point. Since the best brazing material is copper, or contains free copper, when a small portion of the brazing material gets onto the active surface of the point it in some manner contaminates the point, rendering it useless, or at least destroying its utility as far as service and durability are concerned.

Above I have listed some of the important advantages of my improved contact material over the best materials used heretofore, and above I have mentioned the fact that I am not certain that all the metals are alloyed together, though such may be the case. At any rate, the material does not possess the disadvantages of the individual ingredients if used or attempted to be used alone for contact point purposes. For example, silver has the disadvantage that it flakes off; copper if used alone is destroyed almost instantly, and cobalt is too hard, none of these disadvantages appearing at all with my improved material. Furthermore, free copper, such as might get onto the active face of a contact point brazed to an iron tack, destroys the life of the contact point as stated above, but there is no evidence of free copper in my improved material so far as service and use are concerned, and this leads me to belive that the copper is alloyed with one or both of the other ingredients.

While I have described the preferred materials and the preferred proportions, I do not desire to be confined either to the precise materials or proportions, but aim in my claims to cover all modifications which do not involve a departure from the spirit and scope of my invention.

Having described my invention, I claim.

1. A homogeneous material for contact points and the like containing copper, cobalt and silver with the latter in larger proportion than the copper and cobalt.

2. A homogeneous material for contact points and the like containing about 75 parts by weight of silver and about 25 parts by weight of copper and cobalt.

3. A homogeneous material for contact points and the like containing approximately 75 per cent by weight of silver, approximately 23 per cent by weight of copper and approximately 2 per cent by weight of cobalt.

In testimony whereof, I hereunto affix my signature.

JOSEPH A. WILLIAMS.